CELERY AND ONION YIELD, LEAF AND SOIL COMPOSITION

CELERYVILLE MUCK CROPS RESEARCH BRANCH

1964-1965

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Table 1. SOIL TEST VALUES BEFORE AND AFTER PLOWING AND AFTER HARVEST -- CELERY PLOTS

Celeryville, 1965

Average Soil Test (lbs. per acre)

Phosphorus lbs. of (20%) superphosphate applied per acre	Prior to Plowing	Prior to Planting	Change	After Harvest	Change
0	168	202	+34	140	-62
297	193	247	+54	171	-76
1056	205	258	+33	204	-54
1782	265	299	+34	254	-45
2112	213	313	+100	255	-58
Potassium					
lbs. of muriate of potash applied per acre					
0	259	276	+17	274	- 4
281	389	349	-40	341	- 8
891	578	566	-12	653	+87
1485	797	765	-32	899	+132
1782	1024	840	-184	1078	+238

Phosphorus - applied before planting and as two side dressings

Potassium - applied prior to planting

Table 2. SOIL TEST VALUES BEFORE AND AFTER PLOWING AND AFTER HARVEST--CELERY PLOTS

Celeryville, 1964

Average Soil Test (lbs. per acre)

Phosphorus lbs. of (20%) superphosphate applied per acre	Prior to Plowing	Prior to Planting	Change	After Harvest	Change
0	188	182	-6	152	-30
297	213	192	-21	186	-6
1056	233	191	-42	199	+8
1782	258	203	-55	229	+26
2112	260	250	-10	210	-40

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Table 2. Cont.

Potassium lbs. of muriate of potash applied per acre	Prior to Plowing	Prior to Planting	Change	After Harvest	Change
0	244	208	-36	259	+51
338	323	267	-56	443	+176
1154	494	400	-94	620	+220
1970	633	457	-176	831	374
2308	690	726	+36	1005	310

Phosphorus - applied prior to planting and as two side dressings

Potassium - applied ahead of planting

Table 3. SOIL TEST VALUES BEFORE AND AFTER PLOWING AND AFTER HARVEST--ONION PLOTS

Celeryville, 1965

Average Soil Test (lbs. per acre)

Phosphorus lbs. of (20%) superphosphate applied per acre	Prior to Plowing	Prior to Planting	Change	After Harvest	Change
0	115	178	+63	105	-73
297	126	182	+56	110	-72
1056	161	205	+44	158	-47
1821	182	230	+48	184	-46
2112	202	250	+48	238	+5
Potassium lbs. of muriate of potash applied per acre					
0	214	458	+244	294	-164
337	392	464	+72	506	+42
1155	771	774	+3	1088	+314
1973	1192	965	-227	1512	+547
2310	1385	1090	-295	1500	-410

Phosphorus - applied prior to planting and as two side dressings

Potassium - applied prior to planting

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Table 4. SOIL TEST VALUES BEFORE AND AFTER PLOWING AND AFTER HARVEST -- ONION PLOTS

Celeryville, 1964

Average Soil Test (lbs. per acre)

Phosphorus lbs. of (20%) superphosphate applied per acre	Prior to Plowing	Prior to Planting	Change	After Harvest	Change
0	163	168	+5	155	-13
297	176	157	-19	151	-6
1050	212	182	-30	173	-9
1810	267	218	-49	208	-10
2108	308	230	-78	218	-12
Potassium lbs. of muriate of potash applied per acre					
0	244	208	-36	297	+88
337	323	267	-56	500	+233
1155	494	400	-94	1101	+711
1973	633	457	-176	1335	+878
2310	690	726	+36	1448	+722

Phosphorus - applied ahead of planting and as two side dressings

Potassium - applied prior to planting

Table 5. AVERAGE YIELD OF CELERY

Celeryville, 1965

Phosphorus lbs. of (20%) superphosphate applied per acre	Weight of Celery Per Plot (Lbs.) Untrimmed	Trimmed
0	708.0	532.3
297	814.1	633.4
1056	833.8	602.7
1782	958.0	706.4
2112	1002.3	683.1
Potassium lbs. of muriate of potash applied per acre		
0	809.8	599.6
281	819.2	621.3
891	857.2	611.8
1485	952.8	717.0
1782	759.9	571.1

Celery planted in field - April 28
Onions seeded - May 18

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Table 6. AVERAGE YIELD OF CELERY

Celeryville, 1964

Phosphorus lbs. of (20%) superphosphate applied per acre	Weight of Celery Per Plot (Lbs.) Untrimmed	Trimmed
0	964.3	696.0
297	902.3	628.8
1056	922.9	637.8
1782	1037.3	650.3
2112	1123.5	690.4
Potassium lbs. of muriate of potash applied per acre		
0	854.9	606.2
281	869.6	584.3
891	1012.7	689.2
1501	1070.0	691.7
1781	693.0	471.9

Celery planted in field - April 29

Table 7. AVERAGE YIELD OF ONIONS PER PLOT

Celeryville, 1964

Phosphorus lbs. of (20%) superphosphate applied per acre	Weight of Onions Per Plot (Lbs.)	Number Per Plot
0	578.2	3946
297	543.2	3691
1050	547.7	3694
1810	556.8	3379
2108	567.7	3380
Potassium lbs. of muriate of potash applied per acre		
0	557.4	3639
337	558.6	3883
1155	564.7	3868
1973	541.4	3587
2310	486.0	3143

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Table 8. AVERABE YIELD OF ONIONS PER PLANT

Celeryville 1965

Phosphorus lbs. of (20%) superphosphate applied per acre	Weight of onions per plant (lbs.)	Number per plant
0	588.0	2844
297	595.7	3067
1056	560.9	2822
1821	602.1	2793
2112	573.3	3043
Potassium lbs. of muriate of potash applied per acre		
0	589.6	2995
337	658.1	3231
1155	576.0	2942
1973	537.9	2628
2310	480.2	2602

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Table 9. RANGE IN CHEMICAL COMPOSITION OF NUTRIENT ELEMENTS AT FOUR SAMPLING DATES

Celery 1965

Date of Sampling	Major Elements Percentage on Dry Weight Basis N	P	K	Mg	Ca
June 30	4.10-5.58	.168-.508	7.48-10.72	.190-.473	1.59-3.29
July 14	3.40-4.52	.168-.522	4.18-12.90	.100-.370	.64-2.80
July 29	2.78-4.26	.189-.494	3.50-14.08	.116-.405	.75-3.52
August 9	2.67-4.28	.148-.589	3.80-14.70	.148-.352	1.15-3.00

	Minor Elements (Micronutrients) Parts per million Mn	B	Fe	Cu	Mo
June 30	71-198	2.3-27.3	97-345	9.7-22.3	2.2-7.24
July 14	56-142	3.9-35.6	15-738	7.3-19.5	1.10-8.78
July 29	154-429	7.0-52.0	61-442	7.3-24.5	2.2-9.22
August 9	83-267	0.1-41.2	118-266	12.8-56.8	2.9-8.34

N= Nitrogen
P= Phosphorus
K= Potassium
Mg= Magnesium
Ca= Calcium

Mn= Manganese
B= Boron
Fe= Iron
Cu= Copper
Mo= Molybdenum

Table 10. RANGE IN CHEMICAL COMPOSITION OF NUTRIENT ELEMENTS AT FOUR SAMPLING DATES

Onion 1965

Date of Sampling	Major Elements Percentage on Dry Weight Basis N	P	K	Mg	Ca
June 30	2.90-4.26	.142-.388	8.33-12.27	.274-1.19	1.60-5.30
July 14	2.14-4.26	.142-.394	7.51-11.59	.40-1.24	2.18-5.30
July 29	2.10-3.04	.084-.400	7.12-11.65	.35-1.95	2.51-6.40
August 9	2.16-3.28	.104-.364	4.87-11.62	.34-1.95	2.3-6.85

	Minor Elements (Micronutrients) Parts per million Mn	B	Fe	Cu	Mo
June 30	62-451	11.6-51	65-300	7.7-14.0	0.88-8.02
July 14	233-735	8.9-35	87-354	6.9-15.0	2.48-6.93
July 29	165-530	9.6-107	129-430	7.2-15.9	2.36-9.30
August 9	74-423	15.0-57	170-414	16.0-26.1	1.33-7.26

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Table 11. RANGE IN CHEMICAL COMPOSITION OF NUTRIENT ELEMENTS AT FOUR SAMPLING DATES

Celery 1964

Date of Sampling	Major Elements Percentage on Dry Weight Basis N	P	K	Mg	Ca
June 29	3.52-5.00	.190-.816	5.64-10.30	.249-.556	1.05-2.55
July 13	2.96-4.10	.096-.396	4.40-10.08	.206-.455	.87-2.43
July 27	2.60-4.34	.158-.576	3.72-10.78	.187-.400	.61-1.43
August 10	1.94-3.20	.190-.630	2.28-11.54	.170-.351	.61-1.80

Minor Elements (Micronutrients) Parts per million

	Mn	B	Fe	Cu	Mo
June 29	59-220	4.7-51.4	172-336	13.8-46.8	2.24-5.21
July 13	64-179	8.4-20.6	124-420	13.8-21.2	1.54-3.32
July 27	128-301	8.4-28.6	57-169	13.8-18.4	.85-3.14
August 10	118-274	8.4-21.9	41-146	13.1-18.4	1.37-5.58

Table 12. RANGE IN CHEMICAL COMPOSITION OF NUTRIENT ELEMENTS AT FOUR SAMPLING DATES

Onion 1964

Date of Sampling	Major Elements Percentage on Dry Weight Basis N	P	K	Mg	Ca
June 29	3.76-5.00	.290-.664	6.49-11.0	.362-.615	1.72-5.44
July 13	3.20-4.30	.186-,544	3.92-11.20	.393-.592	2.67-4.29
July 27	2.84-3.92	.175-.430	3.30-8.40	.390-.570	2.45-4.15
August 10	2.66-3.70	.158-.376	4.00-7.82	.369-.611	2.29-6.14

Minor Elements (Micronutrients) Parts per million

	Mn	B	Fe	Cu	Mo
June 29	70-284	15.4-6.50	92-510	4.6-26.5	.97-5.50
July 13	212-428	14.7-45.5	104-215	3.8-7.30	.70-5.60
July 27	207-380	10.4-38.6	92-167	3.0-12.4	.88-5.00
August 10	157-384	16.1-47.5	68-178		.50-3.88

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